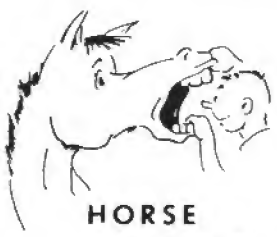
RTTY NEWS OF AMATEUR RTTY

AUGUST, 1962

30 Cents

Vol. 10, No. 8

ALEC HYNDMAN, ZL3HJ,
BRUCE ROWLINGS, ZL1WB



HORSE TRADES

This page of the Bulletin is for use of amateurs who have RTTY EQUIPMENT FOR SALE OR TRADE and those looking for equipment to buy or trade. It is a free service and may be the means of getting someone on the air.

FOR SALE: 26 machine complete with Bell system table and automatic carriage return and line feed. 30 or 60 ma. $75.00. W9DPY - 670 North Elizabeth St. Lombard, Ill.

FOR SALE: 14 KBD Perf. complete with power supply and Teletype steel table, black wrinkle, copy holder, power supply, end of line indicator—clean as a whistle. $85.00 No waiver. W9DPY - 670 North Elizabeth St., Lombard, Ill.

FOR SALE: 14 Typing reperf with synch motor. End of line indicator, synch motor, either auto unshift on space or not at oprs. request. Cover. Kbd. 60 ma machine. Used but in good operating condition. Two cords with ¼" three terminal Teletype plugs. $100.00. W9DPY - 670 North Elizabeth St., Lombard, Ill.

FOR SALE: 14 TD with synch motor. Complete with plug in base. No waiver required. $100.00. W9DPY - 670 North Elizabeth St., Lombard, Ill.

FOR SALE: 14 TD with governed motor. Complete with plug in base. $75.00. No waiver required. W9DPY - 670 North Elizabeth St., Lombard, Ill.

WANTED: Cover for 14 Typing Reperf with kybd. W8PHG, 303 4 & ½ Mile Rd., Midland, Mich.
North Elizabeth St., Lombard, Ill.

WANTED: Information, manual or schematic on FRA, W8YAE 1619 Milburn Ave., Toledo 6, Ohio.

WANTED: Manual for 26, K9VQA, 2123 Windsor Road, Decatur, Ill.

FOR SALE: TTY paper, canary, 8 rolls single copy, and 1 roll of triplicate, $2.50 ctn. Single roll of single copy, 30¢ each. K6ZBL 2816 Delaware, Oakland, Calif.

RTTY, Inc.
372 WEST WARREN WAY
Arcadia, California
Return Postage Guaranteed

1962 NATIONAL CONVENTION SEPTEMBER 1, 2, 3, '62

It's "countdown" now for the 12th National ARRL Convention which will go into three-day orbit from the Portland, Oregon launching pad starting September 1.

To be held for the first time in the West, the convention is expected to draw more than 1,500 enthusiastic hams and their families over the Labor Day weekend, September 1, 2 and 3.

Stan Loye, executive chairman of the convention-doings, announces that the busy program of technical talks, numerous exhibits, swap shop, and prize events hae been finalized, with something scheduled for everyone.

Portland's huge, air-conditioned Memorial Coliseum will be the site for convention activities.

Drawing sharp interest will be the numerous technical discussions by experts from throughout the country. The technical program will include the following talks:

"Multi-Band Antenna Systems" by Sidney T. Kitrell, salts manager, Hi-Gain Antenna Products Corporation.

"Hi Voltage Silicon Rectifier Design" by H. C .Vance, Sr., K2FF, manager, RCA Sales Engineering Ditributor Products.

"Latest Receiving Tubes for Amateur Radio Equipment" by B. S. Angwin, manager, western region, General Electric.

"Gonset – Trend of Modern Tuned Circuit Shape Factors" by Burt Ramsay, Engineer.

"Operation World Wide" and "Operation Hope" by Bud Drobish, W9QVA, Hallicrafters.

"MARS and Amateur Radio" by Maj. General Earle F. Cook, W4FZ.

"The Edison Award Program" by B. S. Angwin, Manager, western region, General Electric.

"Distortion in Linear Amplifiers – Causes and Cures" by Chas. S. Carney, WOGDJ, Manager, Amateur Products Line, Collins Radio.

Supplementing the technical talks will be a vast electronics exhibit, including an exact duplicate of Friendship Seven presented by the National Areonautical and Space Administration.

Admission for the electronics exhibit will be $1, but free to all hams registered for the convention.

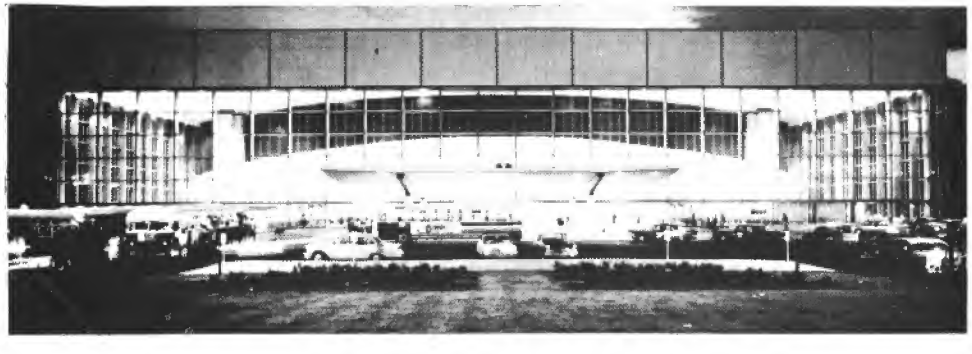
Sociability will abound at the initiation rites for Wouff Hong, renown amateur radio secret society, the Saturday night dance, and the concluding awards banquet Monday. Rear Admiral Bernard F. Roeder, Director of Naval Communications, will be the featured banquet speaker.

Also scheduled during the three-day convention are group breakfasts, mobile exhibits, field strength competitions, movies, a hidden transmitter hunt, and MARS and ARRL presentations.

Convention-goers will also be able to tour a Navy radar picket destroyer which will be berthed in the Portland harbor, and the Oregon Museum of Science and Industry.

For the ladies, special fashion shows, dinners, tours of the world-famous Lloyd Center and the "SWOOP" initiation are on the program.

The whole family will long remember this 12th National ARRL Convention, September 1, 2 and 3!



GETTING STARTED ON RADIOTELETYPE

Irvin M. Hoff, K8DKC
1733 West Huron River Drive
Ann Arbor, Michigan

This will be a series of articles all related to obtaining equipment and setting it up for RTTY, as well as a few operational hints for assured success once the station is running.

The series will consist of the following:

1. Obtaining the equipment and a discussion of various station combinations.
2. Selecting a transmitter for RTTY.
3. Selecting a receiver for RTTY.
4. Several methods of FSK that work well on any type transmitter.
5. Discussion of various converters (Terminal Units)
6. Design of a control unit.
7. Pulling tape.
8. Zero-beating onto another station.
9. "Chasing" DX – when where and how to find it.
10. Hints on converting the HT-32 series to operate rapid break-in on RTTY with single-point switching (also applicable to the HT-37 and others)

(Part One)

Possibly the most difficult part about assembling the RTTY gear is simply the problem of finding it! However, it is not an impossible task, and various companies and individuals throughout the country specialize in handling these units for ham use.

The Bell Telephone Company has been the largest user of Teletype Corp. equipment and normally destroys older items when replaced with new. However, certain states now have set up distributors for dispensing certain surplus items to selected amateurs at a nominal cost – frequently 50%-75% the "going" price asked by a firm specializing in rebuilding and selling directly.

On most of these items obtained a "waiver" will be required, which the purchaser must sign – this merely states that the item will not be used for commercial purposes nor will it be sold to others for commercial purposes.

Many units may be purchased without this waiver, but the price is normally 25%-50% higher in this case.

By looking in the various publications such as this magazine, QST classified ads; CQ; 73; and various club bulletins, you can find items offered for sale. Frequently the price is quoted so you can obtain an idea of what it will cost for the various items.

You should stick to those machines which are in common use, as the parts are much more easily obtained, and you should also be able to find a local telephone company man who is able to maintain simple repair work – such as periodic inspection and oiling.

The machines in most common use would start with the model 26 page-printer. These are often obtained for around $75. They are fairly quiet, and do an excellent job for ham RTTY. They have a keyboard normally and many people think they type better than any of the other keyboards. This item is all you need to get started on RTTY – assuming you have some type of converter for the receiver, and put an inexpensive FSK system into your transmitter.

The model 15 is sort of the "Buick" of ham equipment. It is usually desired over the model 26, principally because it was originally designed for 24-hour continuous operation and is perhaps more "rugged" than the model 26. The model 15 is somewhat noisy, but should run for years with trouble-free operation if oiled occasionally. These items are harder to obtain and usually cost around $125.

The model 19 is actually more than merely a page-printer such as we have talked about up until now. It combines a page-printer type 15 with a tape distributor (tape reader for pulling tape) and a tape perforator. It is no doubt the smallest composite unit that will cut tape, pull tape and also print informaion. They are much harder to obtain since they are still in general use in many parts of the country. When obtainable, they run around $350.00.

Now getting into the fancier equipment, one can get a model 28 KSR. This stands for keyboard send-receiver, and is merely a modern model 15. These are very difficult to obtain and bring a premium price. However, certain places specialize in the model

28 equipment and model 28 KSR would run around $400.00 (used).

The model 19 has its modern counterpart also — the model 28 ASR. This is rather the ultimate in available equipment, and only a very few amateurs will be able to afford this deluxe up-to-date gear. Model 28 ASR's come in various combinations, but can be obtained occasionally for around $750 and up.

The model 14 units come in various combinations, but usually use the standard 11/16" oiled paper for punching tape. There are perforators and reperforators; typing and non-typing; receiving and sending types. Also the model fourteen comes in a strip printer that does not cut tape and uses the same 3/8" paper that was used by the telegraph company in years past. These items are often used by commercial companies for stock market quotations, and usually therefore come with the "fractions" type which must be converted to the "communications" type.

The model 14 typing reperforator is a highly desired item by ham operators. It is the next logical step after getting a model 15 or model 26 page-printer. The "reperforator" refers to the fact that the machines will type tape from the line direct, whereas the perforator will not. It punches only from the local keyboard. The "typing" refers to the fact that letters are typed on the tape and may be read directly from the tape. "Receiving" only merely means it has no keyboard. The "Receiving" only type also does not have a back-space arrangement for "erasing" errors nor does it have an end-of-line indicator. The fanciest model of all would be a model 14 typing-reperforator with keyboard. These, with all the items mentioned usually run $150 or more. The simple receiving only typing reperfs usually run from $75 and up.

The model 14 "TD" (now frequently called 'tape reader') completes the picture for the complete station. This unit plays the tape back into the line. They usually come at around $100 for a good one.

A good basic station which would work well under any circumstances, then, would consist perhaps of a model 26 page-printer, a model 14 typing-reperf with keyboard, and a model 14 TD.

A more fancy station for the man who enjoys pulling tape all the time and not merely for traffic, CQ, etc. would have to have a tape-cutting device that was capable of speeds at least 75 wpm, otherwise the tape reader going at a constant 60-wpm soon catches up and makes the whole method undesirable. So perhaps another inexpensive receiving-only reperf added to the above equipment would really enhance the operation. The new item would be geared at the standard speed, and the fancy typing-reperf with keyboard would then be geared at 75 wpm for cutting tape. When played over a TD, the tape comes out the same of course as though it had been made at the standard speed.

A decent typist operating at 75 wpm can stay ahead of the tape reader indefinitely.

The next step would be an additional page-printer geared at the higher speed to drive the 75-wpm reperf. With this type of set-up the following would be recommended: two model 15s, one at 60 and one at 75; two reperfs — both receiving only, one at 60 and one at 75; and one or two tape readers. This would give an extremely versatile operation.

Converting this to modern equipment and obtaining what the author would consider to be the ultimate in single-operator amateur RTTY for traffic or DX or contest or "rag-chewing" would be the following:

A model 28 ASR with page-printer and keyboard geared to 100 wpm permanently. The model 28 ASR to have in it the standard LPR (typing reperf) with 3-speed gear-shift to allow it to run (the reperf only) at 60, 75 or 100 wpm. Then a tape reader geared at 60 wpm; and an additional model 28 KSR with keyboard running the standard 60 wpm. This would certainly make an ideal set-up. It could of course be enhanced with an additional TD.

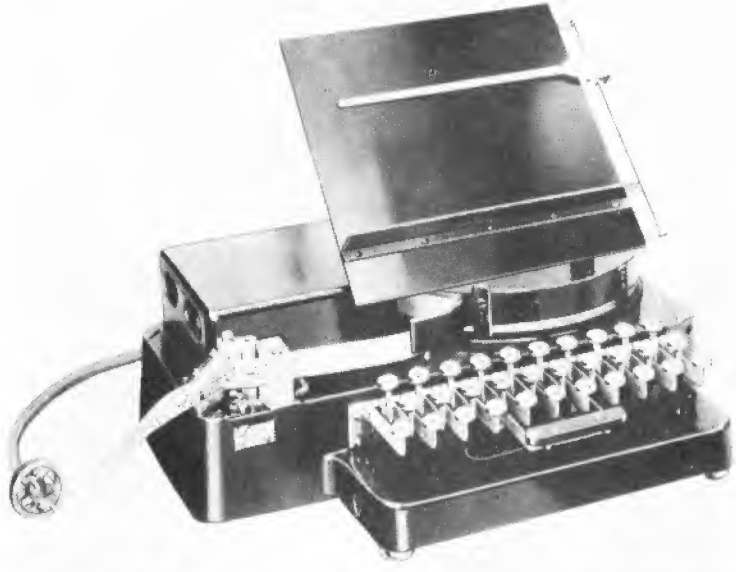
Subscription Rate $3.00 Per Year
RTTY is the Official Publication of the
RTTY Society of Southern California
(A Non-Profit Amateur RTTY Club)
and is published for the benefit of all RTTY Amateurs and Experimenters
Permission to copy may be obtained by writing to the office of the society
For "RTTY" Infomation:
W6DEO W6CG W6TJP
W6AEE, Editor.

MODEL 26

MODEL 15

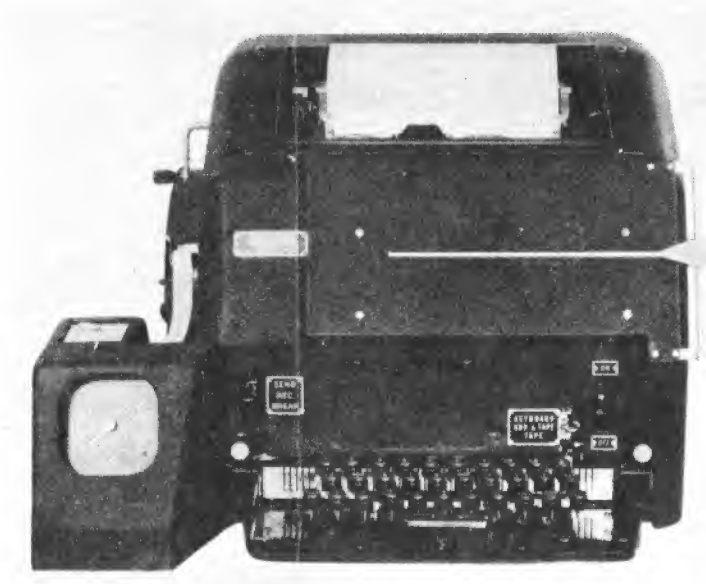
MODEL 19

MODEL 14 TYPING REPERF



MODEL 14 NONTYPING REPERF

MODEL 14 TD



MODEL 15 WITH PERFORATOR KYBD

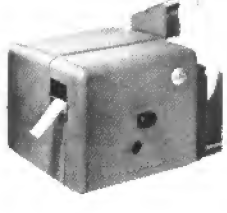
MODEL 14 NONTYPE REPERF

28 ASR

28 KSR

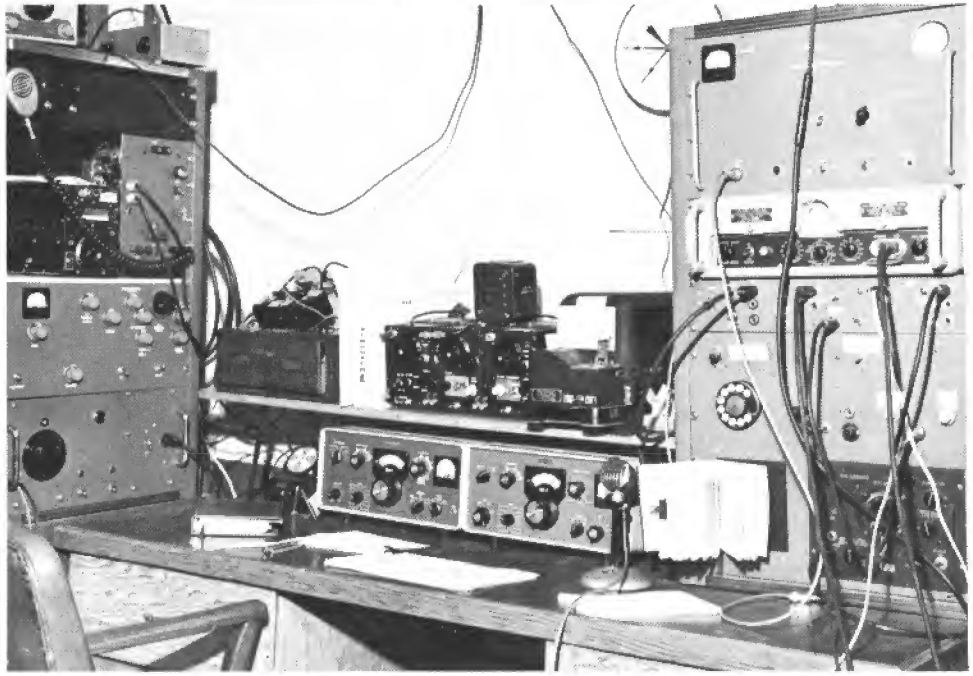
28 RO

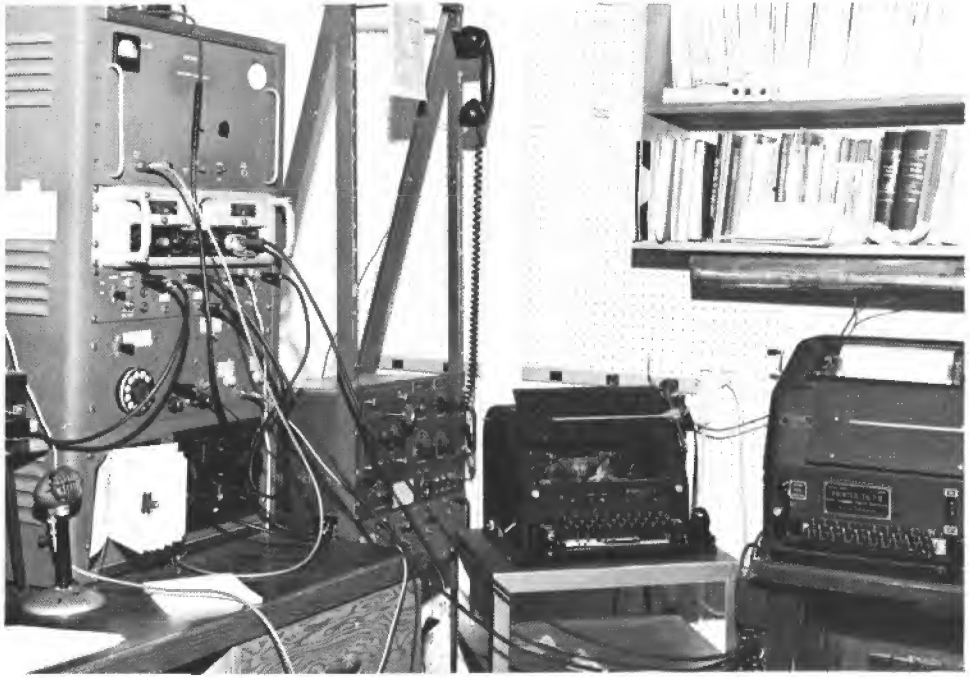
28



LRR
REPERF

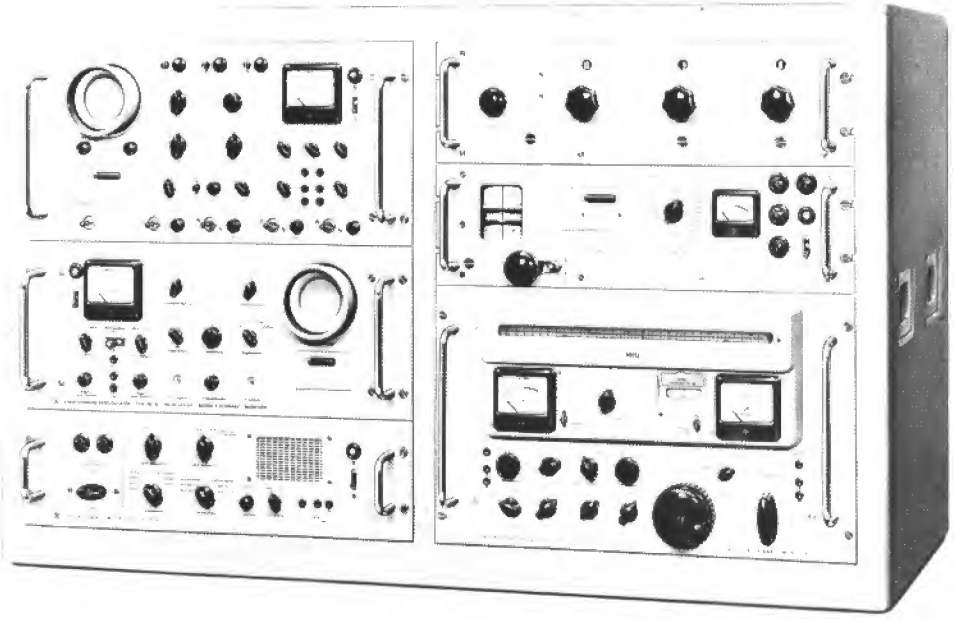
LXD
TD





LEN HERZMARK, KØBWU

STUART DAVIS, K2OBJ/W4ZC



BRUNO RIFFSER'S NEW TU SET-UP, I1RIF

RE: CONNECTOR STANDARDS

John W. Conn, W6QLB

I was most interested in the article that you ran last month on standardized connections for RTTY. While most installations can get by with the usual red and black phone plugs, some stations have more elaborate requirements for remote control, etc. Usually these remote operations involve control of the transmitter, transfer of power, or routing of monitor signals.

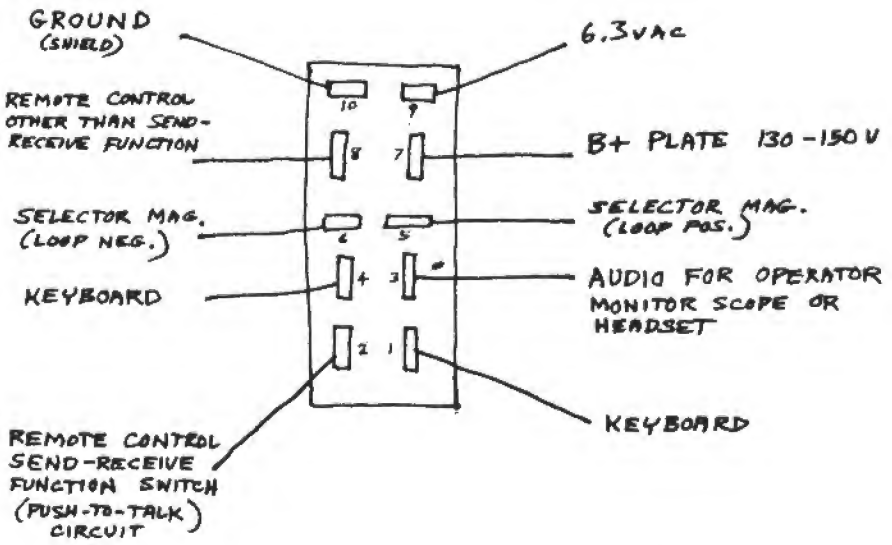
We have adopted a system for Civil Defense use (CD Area D, Region 1, California) that uses a ten-pin Cinch-Jones plug (P-310-CCT) on a cable from the operating position and a matching socket at the terminal unit (S-310-AB). What we have done may be worth throwing into the hopper for stimulation of discussion. While the diagram below indicates most of the connections clearly enough, two or three special comments may help.

Pin 2 is used for transmitter on-off control in the same manner as a push-to-talk switch on a microphone. Usually we have a "Transmit-Receive" switch at the operating position that completes Pin 2 to ground for sending. The model 15 machines often have such a switch that can be used for this.

Pin 8 in our installation is also attached to a ground completing switch at the operator position and is used for control of the "Monitor" function in our AN/FGC-1 Terminal Unit. It can also be used for autostart or various kinds of "breaking."

For placing the keyboard and Selector Magnets in series, it is only necessary to "jumper" Pin 4 to Pin 6 on the Terminal Unit socket. If this is done, Pin 1 then becomes the negative side of the loop within the machine.

I hope that we can get others to contribute their standards. Perhaps it will be possible to reach a voluntary agreement someday, though adapters are still good too.



RADIOTELETYPE CONNECTION STANDARDS - CIVIL DEFENSE AREA "D", REGION I, CALIF.

DX-RTTY

Bud Schultz, W6CG
5226 N. Willmonte. Ave.
Temple City, Calif.

HI:

The August "dog days" are here and judging from the nearly empty mail-bag most of you are doing your DX'ing from some quiet, shady spot with a tall cool one at your elbow! About half the mail consists of picture post cards containing that famous last line—"having wonderful time—wish you were here.' Can't say that I blame you but it's sort of rough on those you leave behind! Well, let's get on with it—here's this month's hot copy. (That's a joke, Son, — it's over 90 degrees here in the shack)

Before leaving on his Canadian Holiday, Ed-K3GIF, took time to send in the details of his latest FSK conquest. This time it is ET2US, in Asmara, Eritrea!! Ed was the first RTTY QSO for ET2US, who is still considered a good "catch" by even the most ardent Sidebanders and CW hounds. The station is run by a number of Stateside GI's and puts in a walloping signal — judging from the copy that Ed sent me. They use a couple of big rhombic antennas pointing at the States and operate on 7, 14, and 21 Mcs. ET2US reports that they have been calling a number of the Stateside gang but getting only token results so keep your ears pealed for em, Gang! They managed a two way FSK QSO with Hans at DL6EQ which undoubtedly is another "first" on RTTY. The mail address for ET2US is A.P.O. 843, New York, N.Y. This bit of news should get you out of that hammock and back into the shack!

Congrats to Bill, VE4BJ, for having finally made the long sought QSO with Asia to complete his WAC-RTTY. At the moment he is sweating out the confirmation from KR6MF. Don't worry, Bill — Cole won't let you down on the QSL. As a matter of record; KR6MF confirms each new QSO via airmail when the QTH is known.

Eric, VK3KF, and Bruce, ZL1WB, are consistent customers for Stateside contacts every week-end with landline copy for hours on end. Eric is still trying to locate a governed motor for a model 26 so he can get VK2EG underway. If any of you can help out on this one please get in touch!! Eric reports that VK4RQ is the proud possessor of a Creed 7-B and should soon be making with the bauds. K3IJF/KH6 is a new one on from Hickam Field and has been really rocking into West Coast converters. He is anxious to get some info on a Robert Dollar TU that he acquired, so if anyone has anything on this unit please let him know. His QTH is: CWO Milford C. Gossard, 204 20th St., Hickam Village, Hickam AFB.

The news from the UK this month comes from Daphne Brennan, the XYL or G3CQE!! Daphne reports that her OM is so busy working on his gear that he just hasn't had time to get on the air. She also hinted that she had ole Bill doing a bit of redecorating when he wasn't busy working on his new exciter. Now I wonder how he gets his wifs to handle his correspondence? — I'm going to have to look into that arrangement! Speaking of the UK; K3GIF tells of working Jack GM3DPS/A on the Isle of Skye in Scotland. Jack told Ed that the suffix "/A" means he is operating from a vehicle. He also pointed out that the suffix "TP" after a UK call sign means "Truly Portable" and usually designates a hand carried battery operated arrangement.

The ZS land gang have not been coming thru for the past month due to adverse propagation conditions but should be starting to show up again about the time this column gets in the mail. Henry, ZS1FD, needs a manual for a Kleinschmidt Model TT-4 — TG (XC-3) and would appreciate the favor if someone could help him out on this. Speaking of Tech Manuals —Doc, G2UK, writes that he is very anxious to obtain a manual for his Teletype, Model 14, strip printer. If you have one around that isn't needed he would be most grateful to acquire it. G2UK recently made a trip to Holland and visited PAOAA, PAOYZ and our old friend,. Jan, PAOFB. He reports that interest from all parts of Europe is picking up at a fast pace and assures us that there will be a considerable number of active stations from that part of the World taking part in our World-Wide RTTY SS in October. This is indeed good news!!

Because of the fact that "DX" is a relative term depending on other factors such as, power, frequencies and circumstances I feel the following short letter is appropriate

for this DX column and should be of interest to many readers. The dateline is Dexter, New Mexico. "Dear Bud: Don't know if this falls within your scope or not. Anyway W5BQC/A5BQC in Santa Rosa, N.M. has been picking up AFSK on 2-meters. Tom has a large colinear array aimed toward Farmington . . . running some scatter skeds with W5SGC. On July 1 and 2 he copied tape transmissions of 'The Quick Brown Fox' etc. I.D. was 7DRK . . . either K7 or A7. Twice he printed "Ariz".

We assumed it was the Arizona gang testing on a repeater — However, preliminary checks with the Arizona gang indicates no Arizona FSK on 2 meters as yet. Being somewhat interested (and puzzled) we thought perhaps some of the gang who read RTTY could come up with a solution. 73 (Sig.) Frank Greene, K5IQL" Thanks, Frank, for that piece of news — hope some one can come up with the answers for you. It has to be some sort of RTTY DX record for this band!

Please remember to talk-up the second annual World-wide DX SS contest taking place on Oct. 20-22. Remind any DX stations that you work to mark their calendars for this super colossal event. The rules will be published in their entirety in an up coming issue of "RTTY" a well as most of the other Ham journals here and abroad. It's the year's biggest RTTY activity so make plans now to spend the third weekend in October on top of those green keys!

BCNU on the band or right here again next month. 73

Bud W6CG

PS: Just had word that the FALL CATS RTTY meeting will be held the week end prior to the EIA Meeting, in Chicago. The RTTY meeting will be held at the McCormick Arena. Jordan Caplan is handling details.

The past several decades have witnessed tremendous advances in the design of antenna. These technological advances, however, have created confusion for amateur radio enthusiasts who wonder which antenna to use for various purposes, and how to install them for the most effective results.

Harry D. Horton, W6TYH, has written this book around contemporary ham antenna designs, using personal experience and knowledge gained in over 30 years of actual practice, to produce the most comprehensive and authoritative volume available on the subject.

AMATEUR RADIO ANTENNA HANDBOOK completely covers ham antenna systems, including design theory and practical applications, transmission lines, impedance matching, coupling, "home-brew" arrays, and towers. It contains a wealth of essential data, including how to build an antenna and get it into operation. The data on towers alone — the first time such information has been covered in a book of this type — is worth the price of the volume.

Eight chapters include: Fundamentals of Radio Wave Propagation; Antenna Fundamentals; Practical High-Frequency Antennas; Transmission Lines; Impedance Matching Systems; Antenna Coupling Systems; Practical Antenna Construction; and Antenna Towers and Supporting Structures.

HOW TO READ SCHEMATIC DIAGRAMS, by Donald E. Herrington, treats the subject with simplicity and thoroughness. It's not just a simple key to schematic symbols, but an easily understandable text which analyzes each component and its construction, explaining the effect it has on the circuit.

The purpose and meaning of various types of electronic equipment diagrams, descriptions and interpretations of schematic symbols, and step-by-step guides for following ignal paths through circuit diagrams are all signal paths through circuit diagrams are all preented in this logically arranged and concise volume.

The "road maps" of electronics are often puzzling even to advanced students and technicians; however, the author has outlined, in text and illustrations, a simplified approach to understanding schematic diagrams. Beginning with individual component symbols and their meanings, the book utilizes a building-block process which ends up with studies of complete schematics, concluding with a section on how to trace a signal through a typical superheterodyne radio receiver.

Variations likely to be encountered in both symbols and designations are treated at length, for it is these variations that usually cause the greatest confusion. Many symbols are included which, while not always found in every schematic, are nevertheless of importance and should be readily recognized by electronics personnel.

Ten chapters include: Types of Electronic Diagrams; Resistors; Capacitors; Coils and Transformers; Electron Tubes; Semiconductors; Switches and Relays; Miscellaneous Components; Connecting the Components; and Reading and Interpreting Schematic Diagrams.

AMATEUR RADIO ANTENNA HANDBOOK and HOW TO READ SCHEMATIC DIAGRAMS is available from electronic parts distributors and bookstores throughout the country, or from Howard W. Sams & Co., Inc., Indianapolis 6, Indiana.

HORSE TRADES

FOR SALE: OR TRADE Federal BC-447 B dual channel transmitter, 300 Watts each channel. Xtal control A-1 mode, 115v 60 cycles. Complete with 4 813 tubes, rectifiers etc. Weight aprox #850. NO SHIPPING, local pickup only. Trade for SSB rig or best offer. W5APM, Box 2309 San Marcos, Texas.

FOR SALE: Surplus Teletype gear of all kinds. Free flyer, MDC Industries 923 W. Schiller St. Phila. 40, Pa.

WANTED: Keyboard perforator for Wheatstone (CW) tape, in working order. Also keying head and/or tape puller for wheatstone tape. WONYU, 4220 A Street Omaha 5, Nebraska.

TRADE: APR-4 receiver with 38-1,000 mc tuning units for page printer in good condition. W8CSH, Athens, Ohio.

FOR SALE: Model 14 NON TYPING reperf, with base, sync motor, working condition, $60.00. Set gears 60 speed for 14TD, $4.00. K5BQA 10756 Wyatt Circle, Dallas 18, Texas.

FOR SALE: Shift indicator circuit board for 'scope. Pages 149/156 NEW RTTY Handbook, WOHZR circuit. $3.25 includes two tube sockets, and encaosulated toroid. Irving Electronics Co. P.O. 9222 San Antonio 4, Texas.

FOR SALE: Collins KW-1Serial #150, factory converted for SSB, also FSK optional, complete set new spare tube, instruction manual, excellent condx, $2,200. K4HWF, P. O. Box 2832, Pompano Beach, Florida.

WANTED: General coverage receiver, Super Pro, 600 or 51 J 3,4. Also sending equipment for model 15, and lower cover for panel, above keyboard, also copy holder. VE3XF, 41 Kildonan Drive, Scarborough, Ontario, Canada.

WANTED: 96.1 CPS tuning fork for adjusting Teletype motor to Creed speed. John Riley, 914 N. Corodova, Burbank, Calif.

WANTED: Governed motor for Model 26 (have 50 cycles) VK2EG, 55, Prince Charles Road, Frenches Forrest, Sydney Australia.

FOR SALE: Model 14 typing reperf $39.00. Model RA-87 pwr supply $9.00. FGC-1 TUs complete in cabinet. $150.00. 11/16" reperf tape case of 40 rolls $8.00. Send for list of additional equipment W5LCU, c/o Industrial Electronics, Inc. P.O. Box 174, Harlingen, Texas.

WANTED: Sync motor and 60 speed gears for 14 TD. Also manual for 14 typing reperf. W7MBV, Ryegate, Montana.

FOR SALE: ½" felt for base of Teletype machines, $1.50 each. PP.K6-KHS 13833 San Antonio, Norwalk, Calif.

WANTED: R-390A Recevier, Distributor box and motor for QUICK BROWN FOX test set. Need two. Page printer mechanism only, in good shape. No cover needed. Either 15 or 26. W1LWV, 99 Water St. Millinocket, Maine.